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ABSTRACT

Building on a prior investigation of users' formulations and needs in fiction, this study was conducted to determine dominant patterns in public library user-librarian search interactions. Based on analysis of 134 actual user-librarian conversations about fiction recorded under everyday library conditions in Danish public libraries in 1976, it was found that user-librarian interactions can be characterized by means of four search patterns; (1) a bibliographical search strategy with instrumental assistance, where the user selects books himself or herself with only passive help from the librarian in physically locating books; (2) a bibliographical strategy with verification assistance, a variation of the first strategy in that the user may ask the librarian for information on the content of books already chosen by the user; (3) an analytical strategy, where explicitly formulated information about user needs is transmitted to the librarian, who compares the needs with the bookstock and suggests a selection; and (4) an empirical strategy, where the librarian empirically classifies users into typical categories on the basis of sex, age, and other features, and recommends genres and titles based on these categories. This report describes the four search patterns and an additional check routine observed in the study. Occurrences and implications of shifts in search interactions are also discussed. It is concluded that there is a strong need for an auxiliary tool providing the librarian with book contents structured according to users' needs as they were identified in the prior study. (ESR)

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# INVESTIGATION OF SEARCH STRATEGIES IN FICTION BASED ON AN ANALYSIS OF 134 USER-LIBRARIAN CONVERSATIONS

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# INVESTIGATION OF SEARCH STRATEGIES IN FICTION BASED ON AN ANALYSIS OF 134 USER-LIBRARIAN CONVERSATIONS

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## Introduction

A previous investigation of users' formulations and needs in fiction (1) is the starting point for this contribution. Through an analysis of users' characterizations of needs and books, a clear structure of users' needs has been discovered. It now appears possible to construct an auxiliary tool to support the librarian's search for a selection of books that matches users' needs, since the necessary specification of book information which reflects user's needs can be found.

The aim of this paper is the study of search-strategies and means of communication employed by the user and librarian within the Danish library environment today with the existing auxiliary tools in fiction. These aids consist of an alphabetical author/title catalogue and a genre catalogue with a small selection of titles without any annotations. Information from these search-routines can be used to illustrate how an auxiliary tool based on the structure of users' needs should be organized to fit into the needs and preferences of the librarians.

134 examples from a set of user-librarian conversations collected in 1976 in Danish public libraries under every day library conditions (2) constitute the empirical material for the following analysis of strategies employed in search process in the fiction stock.

Two students worked in the library from morning to evening in a period of two weeks. They were instructed to make a record of every user-librarian conversation concerning fiction that took place in the library. Thus the material includes all questions and needs from users that involve assistance from the librarian, while the search methods employed by users who help themselves with regard to their fiction needs were not registrated. The aim of the investigation was to reveal the various tasks and search strategies which the user-librarian encounter in everyday work in a public library in Copenhagen.

When the librarians had finished each conversation with a user, they

were interviewed about their knowledge of the mentioned books, their reasons for recommending the individual book, and their acquaintance with the user.

The conclusions identify primary recurrent search features in the conversations. The material has not been subject to statistical analysis so far but such an analysis could be the subject of more detailed studies in future experiments.

Presentation of search strategies.

The users visit the library to select books which have a reasonable chance of satisfying their needs. With the librarian's assistance this book selection can be made in principally two different ways. Since the choice of books consists of a search for a fit between book-contents and user-need, it can only be made by a single person. Either the user or the librarian can search for this fit. The user knows his need and if the searches by himself, he must procure information about the bookstock. The librarian on the other hand possesses knowledge about the bookstock but must obtain information about the user's needs if he is to undertake the search. Several different search strategies have been identified within these frames in the records. In the first strategy (A1) the user himself probes the bookstock on the basis of his need to achieve this fit between book and need. The librarian can assist the user instrumentally by searching books according to the user's bibliographical information or by informing the user about available auxiliary tools, the arrangement of the library etc. Furthermore the librarian can aid the user by providing him with information about the contents of books or authorships, which the user has identified as being of potential relevance (A2).

In the second strategy (B), information about the user's need is communicated to the librarian, who then searches accordingly for books compatible with the user's need. It is a condition for this search that the librarian probes the user's need and has the necessary, basic knowledge of book contents in need-relevant terms in order to be able to achieve a satisfactory fit.

These two strategies can be characterized as rational search strategies, which both require knowledge of book contents in terms compatible with the users' actual needs.

However, the analysis of the conversations shows that skilled librarians typically replace the second strategy by purely empirical routines based on associations from typical user categories to a repertoire of stereotyped sets of book-titles and genres (strategy C).

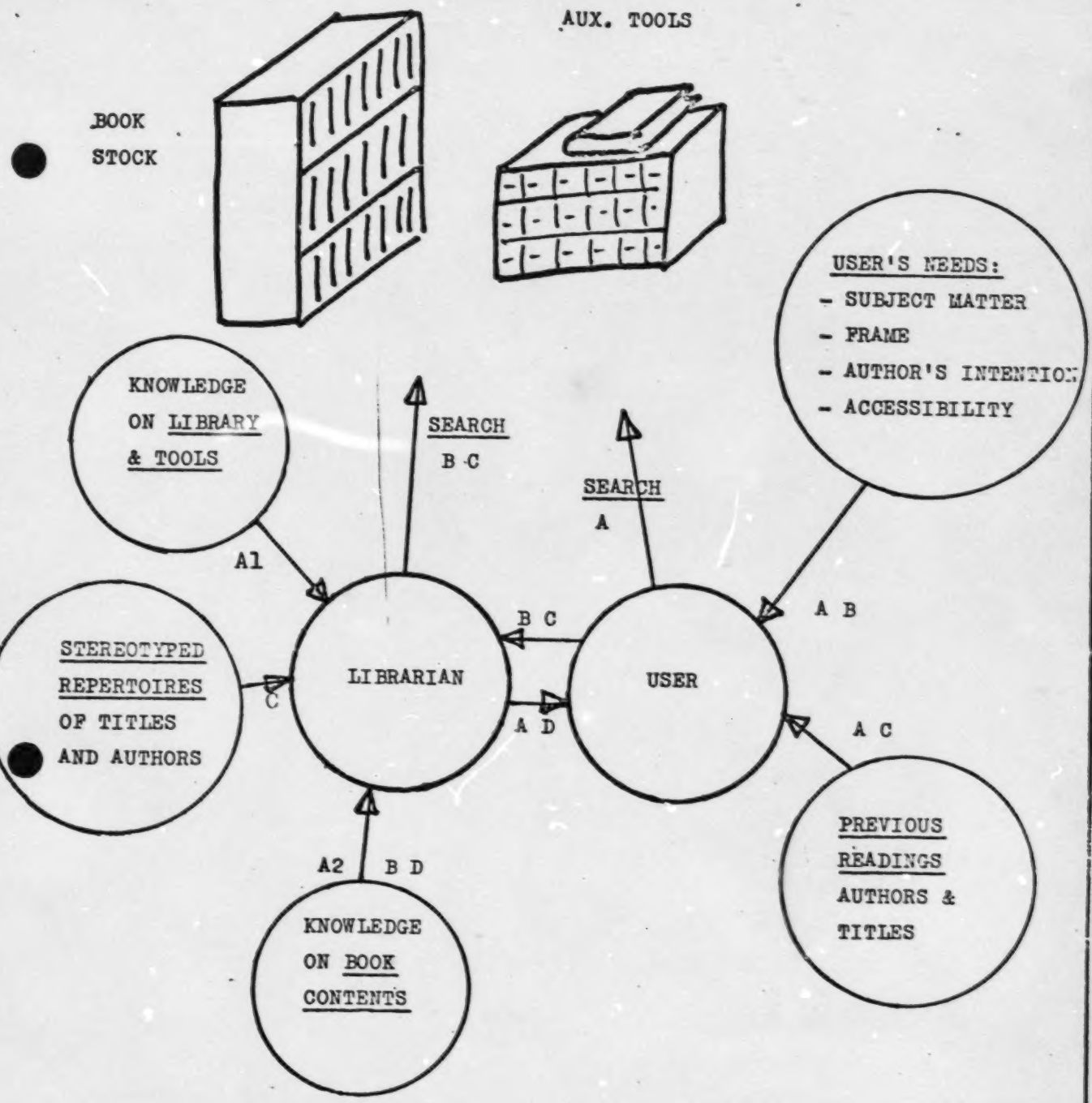


**Fig. 1.** INFORMATION FLOWS IN SEARCH STRATEGIES

A1 BIBLIOGRAPHICAL SEARCH, INSTRUMENTAL ASSISTANCE
A2 BIBLIOGRAPHICAL SEARCH, VERIFICATION ASSISTANCE
B ANALYTICAL SEARCH
C EMPIRICAL SEARCH
D CHECK ROUTINE

## The Strategies and Roles

### A1; Bibliographical search with instrumental assistance

| The user | The librarian |
|---|---|
| - explores book-stock | - assists with physical search |
| - compares book contents and needs | - assists in use of auxiliary tools |
| - selects and decides | - explains arrangements and equipments |

### A2; Bibliographical search with verification assistance

| The user | The librarian |
|---|---|
| - as above | - communicates information on contents of books selected by user |

### B; Analytical search

| The user | The librarian |
|---|---|
| - communicates information on needs | - explores user's needs |
| - accepts/rejects proposed books | - compares to contents of book-stock and selects |
| | - suggests books for user's consideration |

### C; Empirical search

| The user | The librarian |
|---|---|
| - transmits explicit and implicit signals | - initiates signals by questions and proposals |
| - accepts/rejects proposed books | - classifies user according to verbal/visual signals and associates to stereotyped set of authors/titles |

### D; Check routine

| The user | The librarian |
|---|---|
| - requires information on book content | - communicates information on content of selected books |
| - accepts/rejects | |

defining his task as the manipulation of tools in the library system. The bibliographical search strategy is the most frequent with an occurrence of 125 times totally, of which only two are initiated by the librarian.

A1 is the most monotonous and least complicated of all search methods identified in this study, a result due, among other things, to the lack of resistance from the user and the library system as well. This may possibly explain the librarian's low interest in shifting to other strategies, even when the user sets the stage for it, or actually tries to provoke it. Generally speaking, the librarian transfers his knowledge of the library system to the user, whose need on the contrary is not communicated to the librarian, but exists emplicitly as the user's own criteria of book selection. Thus the typical cast of characters consists of the active user and the passive librarian.

A2: Bibliographical search strategy with verification routine.

This is another variety of strategy A1 with which it shares all the previously mentioned features. The distinction occurs when the user has selected authors/titles that might satisfy his need, but is uncertain about the contents of the selected books and requests the librarian to assist with the provision of information about book contents by answering questions such as "How does he write?" Although the user's need is only expressed implicitly through his criteria for book selection and therefore is not communicated explicitly, the librarian should be in a position to characterize book contents in terms compatible with users' needs.

For the time being, the librarian can only superficially deduce book contents from titles arranged in the decimal classification scheme (ex 99.4), which is not the case for the main part of fiction. The librarian is dependent on his memory as to individual knowledge of literary history and information from reviews and carries out the translation into user relevant terms himself, which usually causes problems. This routine is found 11 times, initiated equally often by the librarian and the user.

B: Analytical search strategy.

This strategy is employed when explicitly formulated information about the user's need is transferred to the librarian, who then can compare the need with the book stock and suggest a selection.

In this communication, user and librarian can play different roles as to initiative. The user can probe his own need and introduce it to the librarian by formulations such as: "It must not take place in the countryside; if it is too boring I'll fall asleep". Or "I would like something from the 1600-1700 century, that is what I think is exciting". The librarian can examine the user's need actively, either through questions about his criteria of value and by suggesting various book qualities in terms of needs, or by repeatedly inviting the user to explicate his reading tastes. For example, this librarian's questions about book aspects in terms of needs, when the user asks for historical novels: "Do you want books from old ages? From the antiquity?" "What countries should it be about?" "Do you want something exciting - or may it be humoreous?"

Since the librarian's search for books is based on the translation of the premises behind the user's need-related formulations into library terms as authors/titles, one would consider this strategy to be the most effective way of matching book contents and user's needs. Nevertheless this strategy is only used by the librarian in two conversations, and segments of communication belonging to this strategy were found in only five cases.

Both these conversations are unusual. One is explicitly classified as especially difficult by the librarian, because the user has read so much. The other conversation is exceptional because the user has come to the library on behalf of his father. In this conversation, the librarian's search is based on an interview of the father's attitude to various book aspects in terms of users' needs as seen above. Obviously the empirical search based on signals cannot function, when the user himself is not present in the library, and consequently the librarian must utilize the exploration of the user's need as a source for book selection.

It seems to be a significant observation that the librarian may substitute an analytical search for the intuitive empirical search method, when an unusual situation occurs, as in these two cases.

On the contrary the user frequently - in 57 cases - tries to initiate this strategy to a various extent, but hardly ever succeeds. The explanation of these facts may be found in the circumstances in the library. The analytical search method demands a complicated treatment of data because the librarian in communicating with the user must search simultaneously in four different levels: Analysis of user's need, translation of needs into book contents, identification of a relevant selection of authors/titles and physical search for them. The

success of the librarian's application of the analytical strategy depends on a thorough knowledge of contents of the bookstock systematized according to user's criteria of value as well as an adequate interview technique. The lack of an auxiliary tool to support the librarian's memory and to simplify the treatment of complex data appears to be an important reason for the infrequent use of this strategy. This is seen in one of the conversations, when the librarian initiates an exploration of the user's need, but has no knowledge of titles with combinatorial aspects fitting to this need.

In this strategy the librarian as well as the user can be the active partner. An active user, however, will not succeed with a non-cooperating librarian.

C: Empirical search strategy.

This strategy is based upon the librarian's purely empirical classification of users into typical categories which are associated with a repertoire of typical sets of genres and book titles, the contents of which the librarian usually does not know. The user can express his need in many different ways - in library terms as well as in terms of needs, - but the statements are not conceived literally. Together with other features in the situation such as sex, age, language etc. they are perceived as signals which characterize the user in relation to the librarian's typical categories.

The conversations demonstrate an evident correlation between sex, age, and specific authors/titles. Middle-aged women are repeatedly offered the same set of authors.

User, woman, about fifty years old.

User: "Where do you have fiction? - I mean love stories and such things?"

Librarian: (follows the user to the fiction shelf and asks): "What about Morten Korch?"

User: "I know him by heart".

Librarian: "Do you know Gulbrandsen?"

User: "I have read them".

Librarian: "Do you know "Det blæser fra Dødningefjeld?"

and so on.

The librarian "recognizes" the user's need by a combination of sex, age, question formulation and probably other features in the situation, which the material does not inform us about.

In some conversations the user puts a question to the librarian after

getting about ten book suggestions from the librarian and receives this answer:

User: "I wonder whether that is something for me?"

Librarian: "Well, I can't tell, as I don't know what you like to read".

In the interview of the librarian that follows this conversation, the librarian motivates his book suggestions with two factors: The authors stand on the same shelf and the librarian has read both authors and thinks they fit middleaged ladies.

This is symptomatic and confirms the hypothesis of the application of an empirically based search method. The librarian "recognizes" the need and uses the shelf to support his memory of title/author associations - an approach which often is manifested by sequences of author suggestions in alphabetical order.

There are indications from the way the librarian uses and comments the individual books that the stereotyped set of titles are classified unconsciously in a manner which is not exclusive but in accordance with various "user signals".

Consequently the librarian's questions to the user, when searching empirically, call for confirmation of signals on the basis of which the librarian's book sets are classified in order to control that he operates within the right set.

A hypothesis worthwhile testing relates to what extent the librarian inherits this book classification from the user. Years of experience with different user signals and acceptance of specific authors/titles may supply the librarian with the empirical foundation. It is a fact in the present analysis that in 83% of the book recommendations, the librarian has not read the books he refers to.

To judge from the user's reactions to book proposals, the empirical strategy often seems to represent a sufficient search. Problems arise when the librarian's set of titles is too limited, either because the user already knows the books or because the stereotyped set does not correspond with the individual user's actual need, even though the user situation has common features with the librarian's typical criteria of categorizing.

The most common reaction to problems of this kind is associative leaps to other categories of books or simply free associations, the origin of which cannot be traced in the conversations.

Paradoxically, it seems to be an advantage when using this strategy to serve unknown users, who are not too familiar with the librarian's re-

pertoire. This is intimated by expressions to users, such as: "You have read practically all the good books!" or "Certainly, I would like to help you, but you have already read so much!"

In his own way and without any auxiliary tool the librarian has intuitively reduced the great number of unknown factors when searching for book qualities corresponding to users' needs. He does this partly by creating his own tool in the form of sets of user-classified titles/authors, and partly from conducting searches on the basis of vague user formulations, the information from which is not fully utilized or explored but instead is conceived of as signals. This is an effective compensation for tools, and it is most likely the best solution to the search problems caused by the present situation in the library. It is effected in 65 cases and is thus the second most frequent strategy employed.

The typical cast in the empirical search strategy is the active librarian and the passive user who comments on the librarian's suggestions with a "Have/naven't read" answer.

D: Check routine.

This is one of the important subroutines, initiated by the user or the librarian during the analytical and empirical search strategy, when the librarian selects books on behalf of the user. The user requests the librarian to communicate book contents as a means of checking the agreement between his criteria of value and the qualities of the book suggested by the librarian.

The check routine thus functions as feed-back to the user of the librarian's concept of his need. This is also the case when the librarian takes the initiative to a feed-back by giving supplementary remarks about book contents regarding his book suggestion. This information enables the user to evaluate the identity between book contents and need as well as the librarian's criteria of book selection. The number of check routines is 40, carried out in several variations. The full realization of the check routine depends entirely on the librarian's capability for expressing book contents in user-relevant terms. As the librarian has not read 83% of the books he recommends, he often must deduce information from casual, secondary sources, such as bookflaps, or even decline to enter the check routine. In most cases neither the user nor the librarian has information available to check the correspondance between need and book qualities. The front page of the bookflap is often commented on by the user, and his rejection/acceptance of the librarian's "title/author only" proposals

indicate that the user compensates for missing information about book qualities with value judgements relating to the quality appearance of books.

On the other hand the librarian has developed a number of tricks in order to avoid having to participate in check routines as well as verification routines and instead carries out what might be called a pseudo check routine, consisting of a stereotyped social interaction. A number of examples can illustrate how the librarian substitutes secondary information for information about book contents in terms of needs.

1. The librarian generalizes and refers to the authority of other users as follows:
   The user has chosen two books and turns to the librarian asking: "Are these books something for me?" The librarian answers: "Yes, she is a wonderful author. Many people read her".
   Thus the librarian indicates that those users belonging to the same category which he considers the actual user to be a member of would like this book.
2. The librarian refers to his own authority by saying: "It is a very good book, indeed, I like it myself".
3. The librarian characterizes the book by traditional user signals and genre classifications according to which he has unconsciously classified the book. For example: "It takes place in the country side".
4. The librarian repeats the user's formulations of need telling indirectly that the book he suggests will satisfy his need. For instance: "This book is both easy to read and entertaining".
5. The librarian quotes aloud from the book description on the back-flap before handing it to the user.
6. The librarian reports formal book information such as time of edition, numbers of volumes, series etc.
7. The librarian explains that he hasn't read the book.

Frequently combinations of these different ways of controlling the check routine, and the verification routine as well, are found. The typical cast is the active user and the passive librarian.

A survey of frequency of occurrence of search strategies is given in table 1 and 2.

| Search strategy | Initiated by user | Initiated by librarian | Total |
|---|---|---|---|
| A1 Bibliographical search with instrumental assistance | 123 | 2 | 125 |
| A2 Bibliographical search with verification assistance | 7 | 4 | 11 |
| B Analytical search | 57 | 7 | 64 |
| C Empirical search | - | 65 | 65 |
| D Check routine | 16 | 24 | 40 |

Table 1. Frequency of occurrence of search strategies in 134 conversations.

| Search strategy | Number of conversations where the strategy appears alone | appears combined |
|---|---|---|
| A1 Bibliographical search with instrumental assistance | 7o | 33 |
| A2 Bibliographical search with verification assistance | 1o | 1 |
| B Analytical search | 1 | 41 |
| C Empirical search | - | 35 |
| D Check routine | - | 23 |

Table 2. Number of conversations where search strategies appear alone and in combination with other strategies.

Relationships/changes in Search Strategies.

This examination of 134 conversations resulted in 3 different types of search strategies and two subroutines related to these strategies. A detailed analysis of the function of these strategies in relation to specific search problems within the individual conversation will not be presented on this occasion. But the main features of characteristic shifts from one strategy to another on the initiative of the user or the librarian have been identified.

Generally speaking, changes in strategies occur primarily when problems arise, because the use of one strategy doesn't lead to a result that is satisfactory to either the user or the librarian. Changes occur also when the user expresses several needs subsequently, which may demand different strategies in order to be satisfied.

The previously mentioned search strategies are regarded as different forms of communication which exist between user and librarian during a search process. Both can activate this communication, and whenever an initiative occurs in the conversation, whether it is taken by user or librarian, it is independently of content counted as part of the analysis, even if the opening of a strategy doesn't result in the participation of both parts in a complete progress of the strategy.

Especially, the analytical strategy and the routines of verification and check often exist as rudimentary pieces which obviously belong to the categories but don't appear as a consistent communication. This tendency is clearly connected to strategies that call for the librarian's explanation of book contents and for the user's examination of his own need, both of which seem to cause problems.

But the attempts to change and carry out a different strategy is considered more important than the skill with which it has been undertaken.

A survey of shifts of strategies is given in tables 3-6.

Changes from bibliographical search strategies (A1 and A2) to analytical search strategy (B).

Users' initiatives in changing from a bibliographical to an analytical search occur when the user himself has selected relevant books that for some reason or other are inaccessible. It occurs also when the user has insufficient knowledge about the bookstock and wants more books with the librarian's help to satisfy the same need, or when he has an alternative need.

This is the most dominant change of strategy made by the user and

occurs in 19 cases. This may lead to the assumption that a user's enquiry for authors/titles in many cases represents a decent way of opening a conversation rather than a wish for specific titles. The great number of book reservations, which were found in these conversations may probably be reduced, if the librarian always checked whether the user's bibliographical search could be replaced by an analytical search.

When the user changes to the analytical strategy (B) with an explicit demand for help, it is always met by the librarian - but not by further communication about the user's need, but through use of the empirical strategy C to which the librarian changes immediately.

However, in some cases, the user changes implicitly to the analytical search by explaining his reading taste to the librarian in support of his enquiry for a specific title. The librarian does not follow the user in this situation, and his formulation of need remains as a set of isolated comments.

Only when books selected by the user are not available, it happens a few times that the librarian takes the initiative to change from bibliographical to analytical search. The material is not conclusive since there are so few examples, but the initiative is probably caused by empirical signals in the situation. This would for instance explain that the librarian frequently checks the needs of the very young users regarding enquiries for author/titles, as they might be considered as potential students with specific demands for help.

The same reason for change in strategy is seen when middle aged women ask for specific popular authors, whom the librarian perceives as satisfiers of certain needs. Though the librarian may be succesful when he initiates changes from the bibliographical search to the analytical search, it is not a predominant feature in the material. On the contrary, authors/titles requests are often considered as goals rather than as symptoms/exponents of needs.

Changes from the analytical strategy B to the empirical strategy C.

The alternation of the analytical strategy with the empirical strategy can only be activated by the librarian. He alternates an analytical search initiated by the user with an empirical search for sets of book suggestions in 44 cases. In only two cases the librarian takes the initiative to a fully systematic exploration of the user's needs. In both cases, when an exceptional effort is made to realize the analytical strategy, the librarian changes to the empirical strategy after a while, because the librarian soon runs short of books with the

The user's formulation is not utilized on the basis of its actual information, but instead is perceived as a set of characteristic signals which, together with other features in the user's appearance, lead to an intuitive classification of the user.

An important subroutine is the explicit evaluation of fit between book contents and need (strategy D). When the librarian has chosen books for the user, he quite naturally wants to make sure that the proper fit is present in the librarian's suggestion. To verify a choice, the user can ask for information on book centents; or the librarian's book suggestions can immediately be probed by information on book contents. This routine has great similarity to the librarian's assistance to the user's search in strategy A2.

In what follows, particulars about these four forms of search strategies are discussed with designations as: A1 bibliographical strategy with instrumental assistance . A2 bibliographical strategy with verification assistance . B analytical strategy . C empirical strategy . D check routine . (Figure 2). Segments of conversations illustrate the various search methods and a more detailed discussion can be found elsewhere. (3).

A1: Bibliographical search strategy with instrumental assistance.

In this strategy, the user probes the bookstock and selects books himself and typically asks for assistance from the librarian with questions like "Do you have...", "Could you find...", "Where is.... located" where .... always refers to author/title. The librarian typically plays two different roles which activate two variations of strategies called A1 and A2.

In the bibliographical search A1, both user and librarian communicate in library terms and they are occupied with the concrete manifestation of the user's need in authors/titles and their location in the library. The librarian is the passive helper, assisting in the user's physical search in the library, verifying his imcomplete references and instructing him in library conditions.

The present auxiliary tools represent the logical, rational and effective solution to bibliographical and instrumental problems in fiction which the librarian generally solves in a short time through fixed routine work with few variations. The closing act in this encounter is either the finding of the wanted book or the librarian's proposal for a book reservation, the latter being the logical exit of a mere physical search. It is thus characteristic that the librarian rarely changes to another strategy; he is first and foremost

combination of qualities that would fit to the user's need. Therefore the librarian compensates by changing to the empirical strategy and suggests authors from his standard repertoire which does not correspond with the specification of relevant book aspects, or he searches on free associations, inspired by the shelf.

Changes from the empirical search strategy C to the analytical strategy B.

The change to the analytical search is often prepared for by the user when the librarian operates within the empirical search, either as the result of the librarian's book suggestions or as book comments. This happens in 13 cases.

Usually the librarian doesn't utilize the actual information in the users' statements and doesn't change to the analytical strategy, but insists on the empirical strategy.

From a realistic point of view, the librarian's occasional change to the analytical strategy when he is met with resistance from the user could be more risky than the continuation of the empirical strategy. The exploration of the user's need might underline the probable discrepancy between need and repertoire. There is little probability that the librarian through an improvised search in his memory outside his repertoire and without auxiliary tools would be able to supply the user with books of more relevant contents than those which empirically are popular with certain groups of users.

Another way of indicating the misfit between need and book proposals is the user's change from the empirical strategy to the bibliographical search, as seen in the following.

Changes from the empirical strategy C to the bibliographical strategy A.

When the set of titles presented to the user during the librarian's empirical search doesn't fit to the user's actual wishes, he interrupts the search process by taking over the selection of authors/titles that fit to his need. His initiative to change to the bibliographical search is always supported by the librarian. During the empirical search, the user changes in 10 cases to the bibliographical search by proposing authors/titles as alternatives to the librarian's book selections.

This type of change of strategy can only exist when provoked by the user. In a few conversations it seems to function as the opening to an alternative need rather than a symptom of incompatibility. In a few

other conversations, the user's sympathy with the librarian's troubles caused by his need motivates the user's change to bibliographical references, which he can't manage however. The user's solution to the incompatibility of the set of authors/titles suggested to him is then a regression to authors previously read.

Changes to check routine D.

It is interesting to note how, during the librarian's empirical search, the user compensates for the lack of exploration of his need and implicitly expresses his need by inserting check routines in between the librarian's book selections. In this way an implicit exchange of views of the actual user need is found in 16 cases.

It follows from this function of the check routine that the user logically goes over to a description of his need when the information about book contents selected by the librarian prompts further elucidation of the desired book qualities. Changes from the check routine to the analytical strategy is initiated 7 times by the user. During the librarian's empirical search, his book suggestions are accompanied by his comments on contents in 24 cases, of which 17 cases appear as changes from the empirical strategy to the check routine, and 6 cases are check routines initiated after the user's formulation of need. These figures indicate that the librarian's use of the check routine is connected with the empirical search strategy and may function as the librarian's implicit communicating of his criteria for book selection. On the other hand, this initiative to a check routine never leads the librarian to a subsequent change to the analytical strategy after the check routine, but instead he reverts to his previous empirical search, independently of the user's answers to the check routine.

In 134 conversations the librarian proposes 268 books, and thirty of these books are accompanied by some kind of comments on contents (10%).

Failures of communication.

If the librarian doesn't pursue the user's formulations, but conceives them as signals representative of a need, there can arise characteristic situations of misunderstandings where user and librarian don't utilize the same search strategy.

For example, this happens when the user aims at the bibliographical search strategy, while the librarian aims at the empirical search strategy and associates to authors.

Lady, sixty years.

| | |
|---|---|
| User initiates bibliographical strategy | User: "Tove Ditlevsens book "Wilhelms værelse", have you got it?" |
| | Librarian: "Yes, but we have a lot of reservations on that book. Do you want me to reserve the book for you?" |
| | User: (hesitates) "Well, no, then I would rather wait." It is so difficult to find something - there are so many books." |
| Librarian initiates empirical strategy | Librarian: "Have you read something by Anna Ladegaard?" |
| User refuses empirical strategy/initiates bibl. strategy | User: "No, I don't think that is something for me? There is a lady, who has written something about Nis Petersen". |
| Librarian insists on empir. strategy | Librarian: "Now let's go down and look. What about Tove Ditlevsens autobiographies? Have you read them?" |
| User refuses empir. strategy and reverts to bibl. strategy. | User: "No, I don't think that is something. I have read about her in the weeklies. There should be a lady who has written about Nis Petersen - " |

The user will not be able to communicate information to the librarian about the book she wants him to identify when the librarian is working within the empirical strategy.

Misunderstandings are also seen when the user operates within the analytical strategy trying to explain his literary tastes while the librarian operates within the empirical strategy and conceives the user's words as a positive signal in support of his search. This is because the user's formulation is literally identical with what is often said but the meaning is different.

Conclusion.

This rough introduction to dominant patterns in user-librarian search strategies should be followed up by a further study of the frames and contexts within which the strategies function. Different points of view and approaches may be adapted to this identification of search patterns in order to investigate whether and how they are symptomatic of characteristical structures in other fields. The development of a theoretical basis would involve various questions of relevance, such as:

1. The psychological viewpoint; Are the librarians' way of solving their search problems in a working situation an expression of a certain cognitive structure?
2. The system-oriented viewpoint: Does the arrangement of the library and its auxiliary tools promote and inhibit different search stra-

tegies? Does the librarian unconsciously create working routines that compensate for the obstacles caused by the library system?

3. The educational viewpoint: Does the education promote and inhibit different search strategies? Should the education of librarians integrate the teaching of search in the library system and its auxiliary tools with the various groups of users and their different types of needs and problems? Does the education aim at solving people's problems or is the aim the librarian's control of book-stock and auxiliary tools? What is the librarians' self-comprehension and their concept of the library profession? What factors constitute this concept of a profession?
4. The social viewpoint: Are the identified search patterns symptoms of communicative problems arosen by discrepancy between the user's and the librarian's reading habits and their criterion of literary values caused by the social structure of class distinction?

In the present collection of conversations the necessary information for these studies are not available. But it has become evident, that this collection contains strong indications of the need and relevance of an auxiliary tool providing the librarian with book contents structured according to users' needs as they have been identified previously (4). This would improve his possibilities to effect and complete search strategies based on information about the individual user's needs. On basis of this treatment of search strategies and means of communication it must be concluded that any future analysis must comprise a method that procures complete information from both user and librarian.

## References


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| Strategy is changed | | Initiator | | |
|---|---|---|---|---|
| from | to | User | Librarian | Total |
| A1 Bibliogr. search; instrum. assist. | A2 Bibliogr. search, verif. assist. | 4 | 4 | 8 |
| | B Analytical search | 17 | 3 | 20 |
| | C Empirical search | - | 12 | 12 |
| | D Check routine | - | - | - |
| A2 Bibliogr. search; verif. assist. | A1 Bibliogr. search, instr. assist. | - | - | - |
| | B Analytical search | 2 | - | 2 |
| | C Empirical search | - | 1 | 1 |
| | D Check routine | - | - | - |
| B Analytical search | A1 Bibliogr. search, instr. assist. | 1 | 2 | 3 |
| | A2 Bibliogr. search, verif. assist. | 1 | - | 1 |
| | C Empirical search | | 44 | 44 |
| | D Check routine | 2 | 6 | 8 |
| C Empirical search | A1 Bibliogr. search, instr. assist. | 8 | 0 | 8 |
| | A2 Bibliogr. search, verif. assist. | 2 | 0 | 2 |
| | B Analytical search | 13 | 1 | 14 |
| | D Check routine | 16 | 17 | 33 |
| D Check routine | A1 Bibliogr. search, instr. assist. | 1 | - | 1 |
| | A2 Bibliogr. search, verif. assist. | - | - | - |
| | B Analytical search | 7 | 1 | 8 |
| | C Empirical search | - | 11 | 11 |

Table 3. Frequency of shifts between search strategies found in 134 conversations.

| Strategy is changed from | to | Initiator: User | Initiator: Librarian | Total |
|---|---|---|---|---|
| B analytical | C empirical | - | 44 | 44 |
| C empirical | D check routine | 16 | 17 | 33 |
| A1 bibliographical | B analytical | 17 | 3 | 20 |
| C empirical | B analytical | 13 | 1 | 14 |
| A1 bibliographical | C empirical | - | 12 | 12 |
| D check routine | C empirical | - | 11 | 11 |
| A1 bibliographical | A2 bibliographical | 4 | 4 | 8 |
| B analytical | D check routine | 2 | 6 | 8 |
| C empirical | A1 bibliographical | 8 | - | 8 |
| D check routine | B analytical | 7 | 1 | 8 |
| B analytical | A1 bibliographical | 1 | 2 | 3 |
| C empirical | A2 bibliographical | 2 | - | 2 |
| A2 bibliographical | B analytical | 2 | - | 2 |
| A2 bibliographical | C empirical | - | 1 | 1 |
| B analytical | A2 bibliographical | 1 | - | 1 |
| D check routine | A1 bibliographical | 1 | - | 1 |

Table 4. The shifts in strategy from table 3 ranked according to frequency.

| Typical motivations for change of strategy<br>User's initiative or invitation | |
|---|---|
| From A1 (initiated by user) to B:<br>- selected book inaccessible; something else/similar<br>- selected book not sufficient<br>- opening to alternative need<br>- statement of relation between need and selected book | (17 cases) |
| From C (initiated by librarian) to D:<br>- compensation for exploration of need<br>- implicit presentation of need | (16 cases) |
| From C (initiated by librarian) to B:<br>- misfit between book suggestions and need | (13 cases) |
| From C (initiated by librarian) to A1:<br>- misfit between book suggestions and need<br>- opening to alternative need<br>- sympathy with librarian's search troubles | (8 cases) |
| From D (initiated by user and librarian) to B:<br>- feed-back to librarian about fit between book suggestions and need | (7 cases) |

Table 5. Typical user motivations for change of strategy.

| Typical motivations for change of strategy. Librarian's initiative or invitation. | |
|---|---|
| From B (initiated by user) to C:<br>- to compensate inadequate knowledge of book contents<br>- to compensate inadequate repertoire of titles/authors | (44 cases) |
| From C (initiated by librarian) to D:<br>- sales promotion by communication of signals<br>- replacement of exploration of needs<br>- need for verification of search criteria | (17 cases) |
| From A1 (initiated by user) to C and<br>From D (initiated by user and librarian) to C:<br>- to compensate inadequate knowledge of book contents<br>- to compensate inadequate repertoire of titles and authors | (12 cases)<br>(11 cases) |
| From B (initiated by user and librarian) to D:<br>- need for verification of search criteria | ( 6 cases) |
| From A1 (initiated by user) to B:<br>- empirical signals: specific user groups | ( 3 cases) |

Table 6. Typical librarian motivations for change of strategy.